WELCOME

LINUX BASICS

MODULE - 5

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MODULE - 5

WHAT IS LINUX ?

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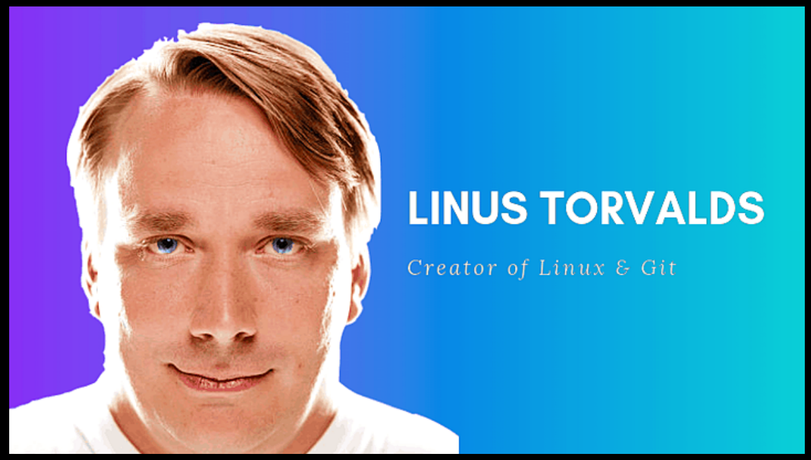
WHAT IS LINUX ?

HISTORY

> The history of Linux began with UNIX in 1969
> UNIX was created in the bell laboratory
> The development of Linux started in 1991
> Linus Torvalds wanted to create a free version of UNIX
> Linux Torvalds created Linux, a free and open-source Linux operating system in 1991, which is based on UNIX.



WHAT IS LINUX ?

KERNEL

> Linux is not an operating system
> Linux is a Kernel
> The kernel is a computer program at the core of an operating system (OS)
> The kernel connects the system hardware to the application software
> Linux Kernel is open source, monolithic, and modular

MODULE - 5

AN OVERVIEW OF TERMINAL

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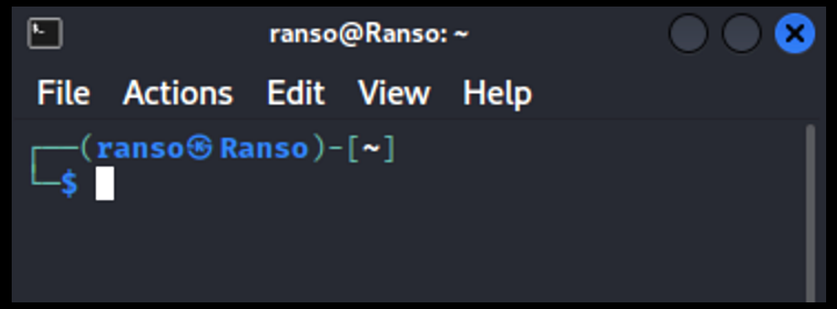
AN OVERVIEW OF TERMINAL

TERMINAL COMMANDS



CTRL + ALT + T > Terminal open
SPECIAL KEY + ↑ > Maximize Terminal
SPECIAL KEY + ↓ > Minimize Terminal
SPECIAL KEY + → > Tile Terminal to left
SPECIAL KEY + ← > Tile Terminal to right
CTRL + SHIFT + + > Increase Terminal font size
CTRL + - > Decrease Terminal font size
CTRL + L > Clear Terminal
CTRL + C > End the current running process
TAB > Autocompletes and Recommendations
↑ > Cycles through your command history
$history > History Library
CTRL + SHIFT + W > Close the Terminal

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BASIC LINUX COMMANDS

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BASIC LINUX COMMANDS

BASICS

$ > Normal Privilege
# > Root or Admin Privilege

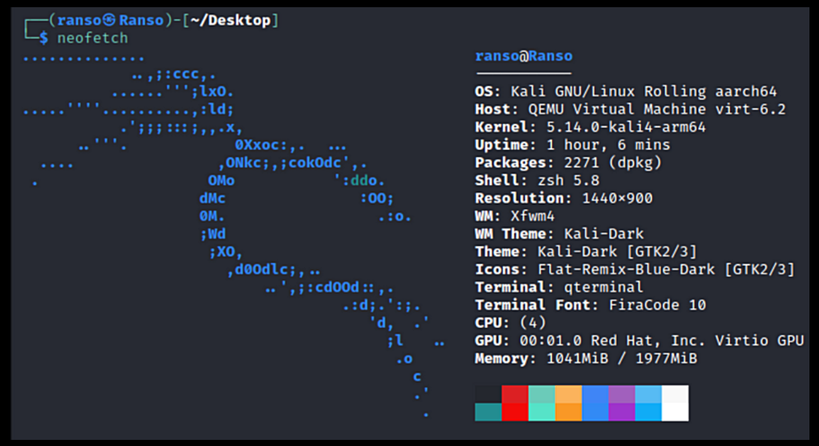
id > Display user and group name
sudo apt-get update > Download all packages
sudo apt-get upgrade > Install the packages
sudo su > Grands superuser permission (root)
ifconfig > Display network interfaces

sudo >> Superuser Do

BASIC LINUX COMMANDS

SYSTEM INFORMATION

whoami > Prints your user
hostname > Prints your system hostname
id > Prints users group id
lsb_release -a > Prints info about distribution
cat /etc/issue > Displays the banner
cat /etc/os-release > Gives complete details
lscpu > Get info about CPU architecture
uname -a > Get info about kernel
who > Show who is logged on



BASIC LINUX COMMANDS

LOCATE

locate > Finds files by name
locate log > Finds files with log
locate --all "log" > Finds the exact word
locate "*.log" > Wildcard option
locate log -c > Gives the search count

```
┌──(root💀Ranso)-[/home/ranso/Desktop]
└─# locate log -c
7100

┌──(root💀Ranso)-[/home/ranso/Desktop]
└─# locate ".log" -c
89

┌──(root💀Ranso)-[/home/ranso/Desktop]
└─# locate "*.log" -c
46
```

BASIC LINUX COMMANDS

GREP

grep > Print lines that match patterns

grep "password" new.txt > Finds only the case-sensitive words

grep -i "password" new.txt > Finds all case words

```
┌──(root💀Ranso)-[/home/ranso/Desktop]
└─# grep "password" new.txt
password:root

┌──(root💀Ranso)-[/home/ranso/Desktop]
└─# grep -i "password" new.txt
password:root
Password:root
PaSsWoRd:root
pAsSwOrD:root
```

BASIC LINUX COMMANDS

PIPE

| > Pipe command lets you send the output of one command to another

cat new.txt | grep password > Finds only the case-sensitive words

cat new.txt | grep -i password > Finds all case words

```
┌──(root💀 Ranso)-[/home/ranso/Desktop]
└─# cat new.txt | grep password
password:root

┌──(root💀 Ranso)-[/home/ranso/Desktop]
└─# cat new.txt | grep -i password
password:root
Password:root
PaSsWoRd:root
pAsSwOrD:root
```

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LINUX FILE OPERATIONS

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LINUX FILE OPERATIONS

LIST

$pwd > Print working directory
$ls > List files in the current directory
$ls -l > Use a long listing format
$ls -a > List all files in the current directory
$ls -lh > Human readable listing format
$ls -la > List all files with a long listing
$ls -R > List subdirectories recursively

```
┌──(ranso㉿Ranso)-[~]
└─$ ls -l
total 32
drwxr-xr-x 2 ranso ranso 4096 Jan 20 01:57 Desktop
drwxr-xr-x 2 ranso ranso 4096 Jan 20 01:57 Documents
drwxr-xr-x 2 ranso ranso 4096 Jan 26 20:33 Downloads
drwxr-xr-x 2 ranso ranso 4096 Jan 20 01:57 Music
drwxr-xr-x 2 ranso ranso 4096 Jan 20 01:57 Pictures
drwxr-xr-x 2 ranso ranso 4096 Jan 20 01:57 Public
drwxr-xr-x 2 ranso ranso 4096 Jan 20 01:57 Templates
drwxr-xr-x 2 ranso ranso 4096 Jan 20 01:57 Videos
```

LINUX FILE OPERATIONS

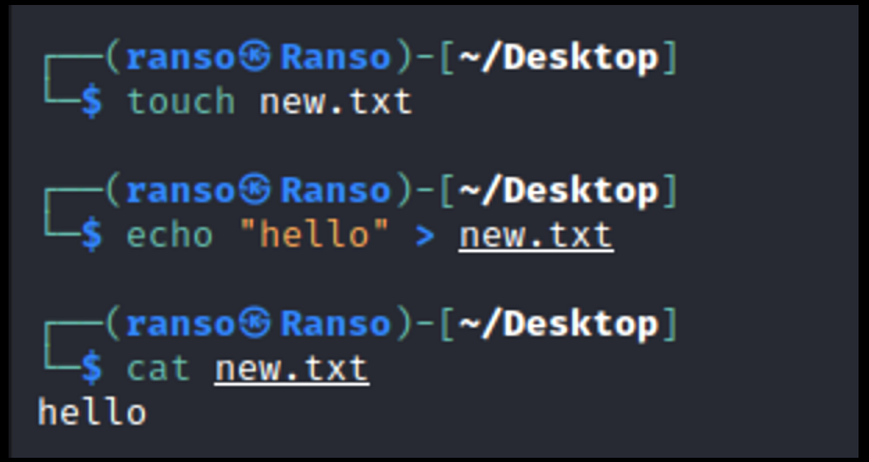
CHANGE

$cd > Change the working directory
$cd ../ > Navigate one directory back
$cd ../../ > Navigate two directory back
$cd Desktop > Change directory to Desktop
$cd /usr > Change to directory not present here
$cd ~ > Navigate back to home directory
$whatis > Gives one-line description

LINUX FILE OPERATIONS

CREATE DELETE

$touch new.txt > Creates a new text file
$echo "hello" > Display a line of text
$echo "hello" > new.txt > Put the text to new.txt
$cat new.txt > Print the output
$mkdir test > Make directory
$rm new.txt > Remove file
$rm -rf test > Remove directory



LINUX FILE OPERATIONS

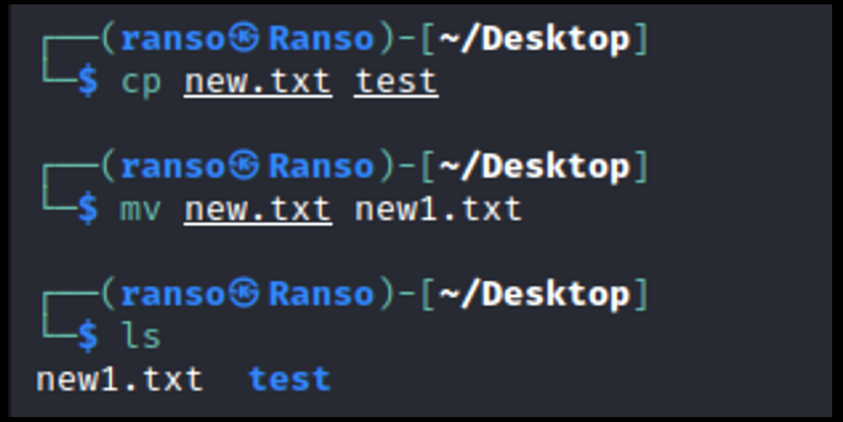
CUT COPY EDIT

$cp new.txt test > Copy the txt file to test folder

$mv new.txt test > Move the txt file to test folder

$mv new.txt new1.txt > Renames new to new1

$mousepad new.txt > Open or create the file in nano



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PERMISSIONS AND OWNERSHIP

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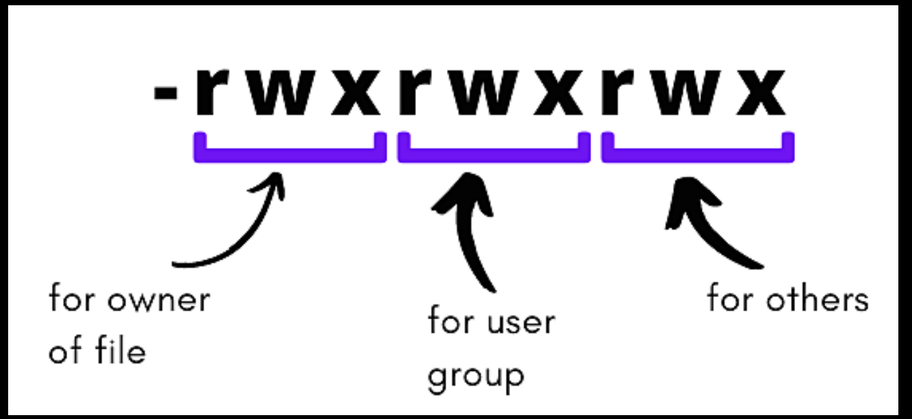
PERMISSIONS AND OWNERSHIP

TYPES

Read > R (Only open and view)
Write > W (Can modify, edit and delete)
Execute > X (Can run, execute and script)

User > u
Group > g
Others > o
All > a




```
┌──(ranso㉿Ranso)-[~/Desktop]
└─$ ls -la new.txt
---x--x--x 1 ranso ranso 6 Apr  1 15:55 new.txt
```

PERMISSIONS AND OWNERSHIP

CHMOD

Octal	Binary	Permissions
0	000	---
1	001	--X
2	010	-W-
3	011	-WX
4	100	R--
5	101	R-X
6	110	RW-
7	111	RWX

chmod > Change file mode bits (file permissions)

```
$chmod a= new.txt
$chmod a=r new.txt
$chmod o=x new.txt
$chmod g=w new.txt

$chmod +x file.sh
$chmod -x file.sh
$chmod 777 file.sh
```

PERMISSIONS AND OWNERSHIP

CH

groups > Prints the groups a user is in
chown >Change file ownership
chgrp >Change group ownership

```
┌──(root💀Ranso)-[/home/ranso/Desktop]
└─# groups
root adm dialout wireshark kaboxer

┌──(root💀Ranso)-[/home/ranso/Desktop]
└─# chown root new.txt

┌──(root💀Ranso)-[/home/ranso/Desktop]
└─# chgrp root new.txt

┌──(root💀Ranso)-[/home/ranso/Desktop]
└─# ls -la
total 16
drwxr-xr-x  3 ranso ranso 4096 Apr  1 16:52 .
drwxr-xr-x 17 ranso ranso 4096 Apr  4 07:26 ..
----x--x--x  1 root  root     6 Apr  1 15:55 new.txt
drwxr-xr-x  2 ranso ranso 4096 Apr  1 16:13 test
```

THANK YOU

THANK YOU

ANY QUERIES

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